

Claims

What is claimed is:

1. A two-payload decoy device comprising:
  - an square outer case having a closed aft end and an open forward end;
  - a square payload assembly, located inside the forward end of the outer case;
  - a round payload assembly, located inside the outer case and aft of the square payload assembly;
  - a manifold/delay body assembly located inside the square outer case and attached to the round payload assembly, located aft of the round payload assembly, said manifold/delay body assembly having a round end located forward and a square end located aft, said manifold/delay body assembly being staked in place by deforming the square outer case inward in each of the four corners of the square end just forward of where the square corners of the manifold/delay body assembly are located inside the square outer case; and
  - an end cap, said end cap being attached in the open end of the outer case.
2. The two-payload decoy device of Claim 1 wherein:
  - said closed aft end of said square outer case having a cavity having a frangible bottom for receiving a standard impulse cartridge.
3. The two-payload decoy device of Claim 1 wherein:
  - said square payload assembly is comprised of
  - a square payload; and

a square piston located aft of the square payload, wherein said square piston fits the inside dimensions of the square outer case.

4. The two-payload decoy device of Claim 1 wherein:  
said round payload assembly is comprised of  
a round inner case, having a forward end and an aft end, said round inner case further having threads for attaching a manifold/delay body assembly located at the aft portion of the round inner case;  
a round payload, located inside the forward end of said round inner case;  
a retaining ring located inside the round inner case forward of the round payload;  
and  
a round piston located inside the round inner case aft of said round payload.
5. The two-payload decoy device of Claim 1 wherein:  
said manifold/delay body assembly is comprised of  
a one-piece manifold/delay body, said manifold/delay body having a round forward end and a square aft end, said round forward end having a round payload expulsion charge cavity having a hole located in the bottom of said round payload expulsion charge cavity creating an opening to a delay element cavity; said square aft end of said manifold/delay body having four corners, said corners having at least one hole in at least one corner, said square end further having a booster pellet cavity and a delay element cavity located on the top surface of said square end, said delay element cavity further having an opening in the bottom of said delay element cavity in connection to the opening in the bottom of said round payload expulsion charge cavity;

a round payload expulsion charge located in the round payload expulsion charge cavity;

at least one booster pellet located in said booster pellet cavity; and  
a delay element located in said delay element cavity.

6. The two-payload decoy device of Claim 5 wherein:

the square end of the manifold/delay body assembly further comprises at least one pin located as to protect the delay element.

7. The two-payload decoy device of Claim 5 wherein:

the at least one booster pellet is housed in a plastic pellet cup to aid in assembly.

8. The two-payload decoy device of Claim 5 wherein:

the round end of the manifold/delay body contains a stop pin to aid in assembly of the manifold/delay body assembly to the round payload assembly.

9. The two payload decoy device of claim 5 wherein:

the at least one booster pellet is comprised of at least 0.067 grams of BKNO<sub>3</sub>.

10. A two-payload decoy device comprising:

an outer case, having a substantially square cross-section, with an inner dimension and an outer dimension, said outer case further having a forward end and an aft end, said forward end being open, said aft end being closed, said aft end further having a standard impulse cartridge cavity having a frangible bottom;

a square payload assembly located inside said forward end of said outer case, comprising a square payload located at the forward end of the outer case, and a square piston located aft of the square payload, said square piston fitting the inside dimensions of the outer case;

a round payload assembly, comprising a round inner case located aft of said square piston, said round inner case containing a round payload located in the forward end of said round inner case and being retained in said round inner case by a retaining ring resting on said square piston of said square payload assembly, said round inner case further having a round piston fitting the inside dimensions of said round inner case and being located aft of said round payload, said round inner case further having threads located on the aft end of the round inner case for attaching a manifold/delay body assembly;

a manifold/delay body assembly having a round forward end and a square aft end, said round forward end being threaded for attaching to said round payload assembly, said round forward end further having a round payload expulsion charge cavity containing a round payload expulsion charge and having a hole located in the bottom of said round payload expulsion charge cavity creating an opening to a delay element cavity, said square aft end having four corners, said corners having at least one hole in at least one corner, said square end further having a booster pellet cavity containing a booster pellet and a delay element cavity having an opening to said round payload expulsion charge cavity and containing a delay element, said manifold/delay body assembly being staked in place by deforming the square outer case inward in each of the four corners just forward of where the square corners of the manifold/delay body assembly are located inside the square outer case; and

an end cap, said end cap being attached in the open end of the outer case.

11. The two-payload decoy device of Claim 10 wherein:  
the square end of the manifold delay body further comprises at least one pin located as to protect the delay element.
12. The two-payload decoy device of Claim 10 wherein:  
the at least one booster pellet is housed in a plastic pellet cup to aid in assembly.
13. The two-payload decoy device of Claim 10 wherein:  
the round end of the manifold/delay body contains a stop pin to aid in assembly of the manifold/delay body assembly to the round payload assembly.
14. The two payload decoy device of claim 10 wherein:  
the at least one booster pellet is comprised of at least 0.067 grams of BKNO<sub>3</sub>.
15. A manifold/delay body assembly for a two-payload decoy device comprising:  
A one-piece manifold/delay body, said manifold/delay body having a round forward end and a square aft end, said round forward end having a round payload expulsion charge cavity containing a round payload expulsion charge, said round payload expulsion charge cavity further having a hole located in the bottom of said round payload expulsion charge cavity creating an opening to a delay element cavity;  
said square aft end having four corners, said corners having at least one hole in at least one corner, said square end further having a booster pellet cavity containing a booster pellet , said square end further having said delay element cavity containing a delay element, said delay element cavity further having a bottom, said bottom of said delay cavity having an opening to said round payload expulsion charge cavity.

16. The manifold/delay body assembly of Claim 15 wherein:  
the square end of the manifold delay body further comprises at least one pin located as  
to protect the delay element.
17. The manifold/delay body assembly of Claim 15 wherein:  
the at least one booster pellet is housed in a plastic pellet cup to aid in assembly.
18. The manifold/delay body assembly of Claim 15 wherein:  
the round end of the manifold/delay body contains a stop pin to aid in assembly of the  
manifold/delay body assembly to the round payload assembly.
19. The manifold/delay body assembly of claim 15 wherein:  
the at least one booster pellet is comprised of at least 0.067 grams of BKNO<sub>3</sub>